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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jack D. Patterson

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EXAMINER

BARAN, MARY C

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/767,812

Applicant(s)

PATTERSON ET AL.

Examiner

Mary Kate B. Baran

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 41-45 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-40 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on 17 January 2006. Claims 1-45 are pending. Claim 41 is amended. Claims 42-45 are new.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-11, 14-21 and 24-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (U.S. PG-Pub No. US 2002/0027504) (hereinafter Davis) in view of Calkins et al. (U.S. Patent No. US 2003/0088346) (hereinafter Calkins).

Referring to claims 1, 18 and 28, Davis teaches a data link tester comprising: a computer comprising a processor and a memory (see Davis, Figure 2 "CPU 230" and "memory 235"), wherein the computer is capable of a connection with a communications system in a piece of equipment and further wherein the piece of equipment comprises at least one component of interest in selective contact with the communications system (see Davis, page 3 [0023]); and instructions stored in memory and executable by the processor for building a roster comprising at least one identifier of the component (see Davis, page 8 [0061]) and then performing a diagnostic step comprising analyzing communications received from the communications system to determine the condition

of communications with respect to the component (see Davis, page 8 [0066]), determining whether a message that contains the identifier has been received from the communications system within a specified period of time (see Davis, page 8 [0065] lines 15-24), and diagnosing at least one fault condition in the communications system by performing at least one message check comprising determining whether a message has been received from the communications system and then performing at least one second diagnostic step (see Davis, page 8 [0064]), Davis teaches transmitting data via a wired connection (see Davis, page 3 [0024] lines 10-13) but does not specify a communications bus.

Calkins teaches a communications bus (see Calkins, page 3 [0038] and page 4 [0052] lines 17-25).

It would have been obvious at the time the invention was made to modify Davis, to include the teachings of Calkins because a communications bus, which is commonly used in vehicle testing, would have allowed the skilled artisan to transmit and receive data regarding the vibration or noise of the vehicle under test (see Calkins, page 1 [0012]).

Referring to claims 2, 20 and 38, Davis further teaches a user interface (see Davis, page 2 [0021] lines 12-19).

Referring to claims 3, 21 and 39, Davis further teaches that the computer is a component controller (see Davis, page 3 [0023]).

Referring to claim 4, Davis further teaches that the identifier is associate with at least one of a component description, a time not communicating, a number of bad messages, and a component serial number (see Davis, page 8 [0066]).

Referring to claims 5, 6 and 8, Davis further teaches determining whether there has been a lost communications event, a time not communicating or a number of bad messages relating to the identifier (see Davis, page 8 [0065] lines 15-24).

Referring to claim 9, Davis further teaches determining that the communications received from the communications bus contain at least one second identifier of at least one second component in the piece of equipment, wherein the second identifier is not in the roster (see Davis, pages 8-9 [0067]).

Referring to claim 10, Davis further teaches that the instructions stored in the memory are further executable by the processor for adding the second identifier to the roster (see Davis, page 9 [0068]).

Referring to claim 11, Davis further teaches extracting from the communications received from the communications bus information related to the identifier (see Davis, page 8 [0066]).

Referring to claims 14, 25 and 36, Davis teaches that the piece of equipment is a vehicle (see Davis, page 9 [0075]).

Referring to claims 15, 26 and 37, Davis teaches that the computer is on board the piece of equipment (see Davis, page 9 [0075]).

Referring to claims 16 and 24, Davis teaches a second computer capable of receiving data that the computer causes to be uploaded from the memory (see Davis, page 8 [0066] lines 14-18).

Referring to claims 17, 27 and 40, Davis teaches all the features of the claimed invention except that the connection comprises a cable that supports the RS-232 data communications standard.

Calkins teaches that the connection comprises a cable that supports the RS-232 data communications standard (see Calkins, page 2 [0035]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Davis to include the teachings of Calkins because using an RS-232 communications standard would have allowed the skilled artisan to communicate with PC-based system for download and analysis, as well as interfacing with printers and display terminals (see Calkins, page 2 [0035]).

Referring to claim 19, Davis teaches that the specified period of time is in a range from approximately 400 ms to approximately 2.5 seconds (see Davis, page 8 [0065] lines 15-24).

Referring to claims 29 and 31, Davis teaches determining whether a specified period of time exceeds an elapsed period of time between performance of a first message check in which a message was detected containing data and a second message check in which a message was detected either containing data or not containing data (see Davis, page 8 [0064]).

Referring to claim 30, Davis teaches determining whether a link open condition exists (see Davis, page 7 [0056]).

Referring to claims 32 and 33, Davis teaches determining whether a link shorted condition exists by determining whether the communications bus has been sending only ones or zeros for the specified period of time (see Davis, page 7 [0052] lines 5-8).

Referring to claim 34, Davis teaches determining whether an error has been received if a message has not been received from the communications bus (see Davis, page 8 [0064]).

Referring to claim 35, Davis teaches that the error is a cyclic redundancy check error (see Davis, pages 6-7 [0049]).

3. Claims 12, 13, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (U.S. PG-Pub No. US 2002/0027504) (hereinafter Davis) in view of Calkins et al. (U.S. Patent No. US 2003/0088346) (hereinafter Calkins) and further in view of Lesesky et al. (U.S. Patent No. US 2003/0040873) (hereinafter Lesesky).

Referring to claims 12, 13, 22 and 23, Davis and Calkins teach all the features of the claimed invention except that the computer communicates with the communications bus according to the SAE J1587 or 1939 standard.

Lesesky teaches that the computer communicates with the communications bus according to the SAE J1587 or 1939 standard (see Lesesky, page 9 [0077] lines 7-9).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Davis and Calkins to include the teachings of Lesesky because using an SAE J1587 or 1939 standard would have allowed the skilled artisan to allow typical diagnostics for the trucking industry (see Lesesky, page 9 [0077] lines 7-9).

Allowable Subject Matter

4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 41-45 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

Claims 41-45 are allowable over the prior art because a method, comprising: connecting a computer with a communications bus in a piece of equipment wherein the piece of equipment comprises at least one component of interest; building a roster comprising at least one identifier of the component; and performing a first diagnostic step, wherein the first diagnostic step further comprises determining a number of messages received per second relating to the identifier, is not found, taught or suggested in the prior art of record.

Response to Arguments

7. Applicant's arguments filed 17 January 2006 have been fully considered but they are not persuasive.

Applicant argues that Davis does not teach "analyzing communications to determine the condition of communications." However, Applicant's arguments are not well taken. Davis teaches determining the condition of a communication, such as whether or not the communication was successful. If the communication fails, this failure information is then logged in a database (see Davis, page 8 [0066]).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious at the time the invention was made to modify Davis, to include the teachings of Calkins because a communications bus, which is commonly used in vehicle testing, would have allowed the skilled artisan to transmit and receive data regarding the vibration or noise of the vehicle under test (see Calkins, page 1 [0012]). Furthermore, while Davis does not specify a communications bus, wireless or wired (i.e. communications bus) is mentioned (see Davis, page 3 [0023]-[0024]). And a communications bus is simply wired communication.

Applicant further argues that Davis does not teach that "the computer is a component controller." However, Applicant's arguments are not well taken. The claim recites that the component controller is a computer capable of connected to a communication bus in a piece of equipment. Davis teaches a site controller having either a wired or wireless connection to sensors or actuators (i.e. equipment) (see Davis, page 3 [0023]). Davis does not specify that wired communication is a communication bus, but this limitation is met by Calkins who teaches communications bus (see Calkins, page 3 [0038] and page 4 [0052] lines 17-25). It would have been

obvious at the time the invention was made to modify Davis, to include the teachings of Calkins because a communications bus, which is commonly used in vehicle testing, would have allowed the skilled artisan to transmit and receive data regarding the vibration or noise of the vehicle under test (see Calkins, page 1 [0012]).

Applicant further argues that Davis does not teach, “performance of a message check.” However, Applicant’s arguments are not well taken. Davis teaches determining whether or not an acknowledgement has been received within a series of time periods (i.e. performance of a message check) (see Davis, page 8 [0064]). This determination also includes checking to see if a preamble to the message has been sent (i.e. determining if the message contains data) (see Davis, page 8 [0064]).

Applicant further argues that Davis does not teach “determining whether a link open condition exists.” However, Applicant’s arguments are not well taken. Davis teaches determining whether or not a device is capable of sending and receiving data (i.e. a link open condition) (see Davis, page 7 [0056]).

Applicant further argues that Davis does not teach “determining whether a link shorted condition exists.” However, Applicant’s arguments are not well taken. The claims recite determining a shorted condition by sending a plurality of ones or zeros for a specified period of time. Davis teaches sending a specified number of ones with no transition as a preface before sending data (see Davis, page 7 [0052]).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday - Friday from 9:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2857

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

31 March 2006


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